Hazardous Waste Storage Guidelines

Alberta
ENVIRONMENT

89-01055/

HAZARDOUS WASTE STORAGE GUIDELINES

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June, 1988
0431R

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A. Definitions

1. In this guideline:

   (a) "container" means any portable device which has a capacity that does not exceed 454 litres and is used to store hazardous waste.

   (b) "hazardous wastes" means those wastes which come under the purview of the Hazardous Chemicals Act,

   (c) "storage" means the holding of hazardous waste for a temporary period at the end of which the hazardous waste is transported, treated, or disposed,

   (d) "storage facility" means a place where hazardous wastes are stored in tanks or containers and includes all contiguous land and structures, other appurtenances, and improvements on the land, and

   (e) "tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials that provide structural support and without precluding the generality of the foregoing, may include materials such as wood, concrete, steel and plastic.

B. Application

1. The requirements set out in this guideline apply to anyone who stores hazardous waste in tanks or containers at the place where the waste is produced, where it is collected prior to shipment for treatment or disposal, and where it is treated.

2. The guideline does not apply to surface impoundments or lagoons. These requirements are provided in other guidelines.

3. The guideline does not apply to the storage of recyclable materials as defined in the Hazardous Chemicals Act.

4. Transformer hulk is not considered a waste container.

C. Approval Requirements

Because of the administrative burden that would be imposed on Alberta Environment staff to issue approvals for all the places where hazardous wastes are stored in relatively small amounts, it has been decided that a combination of regulations applicable to all storing of hazardous waste and approvals under the Clean Air Act and Clean Water Act applicable to certain storing activities would represent a reasonable approach for protecting human health and environmental quality.

The following persons require an approval under the Clean Air Act and Clean Water Act prior to establishing a storage facility for hazardous waste:

(a) Anyone that stores hazardous waste produced by someone else. A corporate entity operating at many different places would not come under this requirement if wastes are brought from its many locations to one central location owned and operated by that corporate entity.

(b) Anyone that stores hazardous wastes longer than 365 days or in an amount exceeding 10 tonnes as prescribed in the Hazardous Waste Regulation.

In addition to the environmental protection legislation there may be requirements under the Fire Prevention Act and the Planning Act which must be met.

The Hazardous Chemicals Act and Hazardous Waste Regulation also require that those persons who fall in category (a) above must have an authorization from the Alberta Special Waste Management Corporation.

An application form for a Clean Water Act permit or licence to operate a hazardous waste storage facility is attached in the appendix.

D. General Requirements for Storage Facilities

1. Storage Capacity

In the interest of increased public safety and environmental protection the volume of hazardous waste held in storage at a storage facility shall be minimized. The Hazardous Waste Regulation prohibits storing hazardous waste for longer than 365 days or in an amount which exceeds 10 tonnes. It also provides that these limits may be exceeded if the wastes are stored under the authority provided by a Clean Water Act licence to operate issued by the Director of Standards and Approvals.

2. Siting

A storage facility shall be located so that it meets the following siting criteria:

(a) The facility shall be readily accessible for fire fighting and other emergency procedures,

(b) The site is not subject to flooding caused by a 24-hour, 10-year storm,

(c) The site shall be chosen to minimize the potential for environmental damage, including any threats to the quality of surface water and ground water; and to the health of humans, animals and plants from the normal operation of the facility and from any other causes,

(d) The site shall comply with the siting requirements stipulated in the Planning Act.

3. Safety

(a) A storage facility for hazardous waste shall be designed, constructed and operated such that it complies with the requirements stipulated in the following regulations under the Occupational Health and Safety Act:

(i) General Safety Regulations,
(ii) Chemical Hazards Regulations, and
(iii) Ventilation Regulations.

(b) A storage facility for hazardous waste shall comply with the requirements for safety equipment stipulated in the Alberta Fire Code of the Fire Prevention Act.

(c) Notwithstanding the requirements of subsections D-3(a) and D-3(b), hazardous waste must be stored in such a manner that it does not:

(i) generate extreme heat or pressure, fire or explosion or violent reaction,

(ii) produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health,

(iii) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion,

(iv) damage the structural integrity of the storage facility,

(v) threaten human health or impact the environment through other like means.

(d) Access to a hazardous waste storage facility shall be limited as much as possible to employees who have been instructed in respect of normal and emergency procedures. These procedures shall be documented in a manual made available to those employees having access to the storage facility.

(e) A storage facility shall bear signs indicating that hazardous wastes are stored therein. The signs shall be of such design as to be legible from a reasonable distance.

(f) Incompatible wastes must be stored in such a manner that contact in the event of an accidental release is not possible.

E. Environmental Protection Measures for Storage Facilities Using Tanks

1. All tanks in which liquid hazardous waste is stored shall be surrounded by an earthen dike or other equivalent structure configured to contain the waste under tank failure conditions with the following capacity:

   (a) when the dike contains one tank, 110 percent of the capacity of the tank; or

   (b) when the dike contains more than one tank, 110 percent of the volume of the largest tank within the diked area plus 10 percent of the aggregate capacity of all other tanks.

2. The diked area including the area underneath the tank shall be lined with clay having permeability of 10^{-7} cm/s or less and thickness of 0.5 meters or more or a plastic liner.

3. The dike shall be constructed to withstand the hydrostatic head associated with it being full of liquid resulting from other than catastrophic events.

4. The diked area shall be graded to a sump with necessary piping to pass over the dike for rain water removal. There shall be no openings in the dike that provides a direct connection to any place beyond the dike area.

5. A storage tank shall be provided with some means of controlling vapor release (e.g. activated carbon bed, scrubber or an inert gas blanket) if the vapor pressure of the stored hazardous waste is high enough to be of concern.

6. Any leakage from the tank shall be contained and prevented from entering into the remainder of the storage site, and places beyond, including sewers and the ground underneath the site.

F. Environmental Protection Measures for Storage Facilities Using Containers

1. A storage facility where containers containing liquid hazardous waste are stored shall consist of a structure with:

   (a) a floor constructed of material which will not react with or absorb any waste or waste constituent, and which has no drains that provide a direct connection to sewer,

   (b) a continuous impervious curb (minimum height of 15 centimeters) placed on the perimeter of the floor in such a manner that waste will not escape between the floor and curb,

   (c) appropriate side walls and roof to protect the containers from the weather, and

   (d) a place to load or unload containers designed so that:

      (i) any spill will be contained; and

      (ii) clean-up of spilled materials will not produce a significant increase in the amount of waste to be managed as might result from the spill onto land.

2. A storage facility where containers containing solid hazardous waste are stored shall consist of a structure with appropriate side walls and roof to protect the containers from the weather. If a proper covered area is not provided, only those containers provided with secondary containment such as a plastic inner liner or some form of overpack container may be stored in this type of storage facility.

3. Alternative designs will be considered provided they meet the intent for containment provided by the features outlined in subsection 1 & 2 above.

G. Requirements for Tanks

1. When hazardous waste is continuously fed into a tank, the feed system shall be equipped with an automatic shut-off device (or a by-pass system if appropriate) activated by a high level sensor positioned in the tank.

2. A tank shall be equipped with a high level alarm system that will give sufficient time to an operator to take appropriate action when a tank is being overfilled.

H. Requirements for Containers

1. If a container begins to leak, it must be placed in an overpack container or the contents must be transferred to a container that is in good condition.

2. Every container shall be adequately labelled, stating the identity of the contained waste.

3. A container shall be closed at all times except when waste is added or removed.

4. A container shall be handled in accordance with appropriate safety requirements and any material lost during opening, handling or storage shall be contained.

I. Inspection and Record Keeping Requirements

1. The owner or operator of a storage facility shall maintain records indicating the date, type, location and quantity of hazardous waste that was brought into or removed from the facility.

2. The owner or operator must:

   (a) inspect waste feed shut-off system (or by-pass system) prior to commencing transfer of waste into a tank to ensure that the system is in good working order,

   (b) record data gathered from monitoring equipment (e.g., pressure and temperature gauges) where present, at a frequency which will demonstrate systems are operating normally,

   (c) maintain a corrosion monitoring program which will provide an indication of the integrity of tanks and piping, and

   (d) routinely inspect the storage area for leaks and initiate corrective action, as required.

A P P E N D I X

Alberta
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Standards and Approvals Division

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THE CLEAN WATER ACT

APPLICATION FOR A PERMIT OR LICENCE TO STORE HAZARDOUS WASTE

For Office Use Only
Application Number: _____
Date Received: _____
Review by: _____

SECTION ONE: General Information

1.0 Date of Application _____

1.1 Name of Applicant: _____
(Company or Corporation)
_____
(Owner or Agent)

1.2 Name of Plant or Facility: _____

1.3 Address of Applicant:
_____
(Street, Avenue, Road, R.R., Box, etc. City, Town, Village, Postal Code)

1.4 Telephone Number: _____

1.5 Location of Facility:
_____
a) (Street, Avenue, Road, R.R., Box, etc. City, Town, Village, Postal Code)
OR
b) LSD ____, 1/4, Section ____, Township ____, Range ____, Meridian ____

1.6 Application for:
____ a Permit to Construct.
____ a Licence to Operate.

2.0 Provide a brief description of the operation and storage facility. Provide drawings if available.

3.0 Have you obtained authorization from the Alberta Special Waste Management Corporation pursuant to the requirements of Section 7.4 of the Hazardous Chemicals Act?

_____ YES _____ NO

CERTIFICATION

I certify that I am familiar with the information contained in this application and that, to the best of my knowledge and belief, such information is true, complete and accurate.

_____
Printed name of person signing

_____ _____
Title Date of Application

_____ _____
Phone Number Signature